

REMARKS / ARGUMENTS

Claims 1, 2, 4-12, 14-17 and 19-24 are presently pending in the application. Applicant has amended claims 1, 6, 15, 16 and 21 herein. Applicant respectfully requests reconsideration of the claims based on the following remarks.

Support for the claim amendments can be found in the specification, figures, and originally filed claims. Accordingly, applicant submits that no new matter has been introduced by the claim amendments.

Claims 1, 2, 4, 5 16, 17 and 19-24 were rejected under 35 U.S.C. 103(a) based on Susil et al. (WO02/22015) hereinafter "Susil", in view of Allen et al. (U.S. Patent No. 5,142,930) hereinafter Allen, and further in view of Onik et al. (U.S. Patent No. 4,583,538) hereinafter Onik.

Referring to Susil, the reference is directed to a system for image guided surgical interventions. Further, Allen is directed to an interactive image-guided surgical system. Further, referring to Onik, the reference is directed to an apparatus for placement of probes in the body.

Referring to claim 1, as amended, Susil, Allen, and Onik, alone or in combination, do not provide any teaching of: "moving the end effector along the second trajectory path toward the target position when an amplitude of the first signal is within a predetermined amplitude range, the predetermined amplitude range having an upper threshold value and a lower threshold value." In fact, Susil, Allen, and Onik do not even mention upper and lower threshold values.

Further, Susil, Allen, and Onik, do not provide any teaching of: "stopping movement of the end effector when the amplitude of the first signal is not within the predetermined amplitude range", as recited in claim 1 as amended.

Accordingly, because the combination of Susil, Allen, and Onik does not teach each and every limitation of independent claim 1, applicant submits that claim 1 and claims 2, 4 and 5 that depend from claim 1, are allowable over these references.

Referring to independent claim 16, as amended, applicant submits that Susil, Allen, and Onik do not provide any teaching of: "code for moving the end effector along the second trajectory path toward the target position when an amplitude of the first signal is within a predetermined amplitude range, the predetermined amplitude range having an upper threshold value and a lower threshold value."

Further, Susil, Allen, and Onik do not provide any teaching of: "code for stopping movement of the end effector when the amplitude of the first signal is not within the predetermined amplitude range", as recited in claim 16 as amended.

Accordingly, because the combination of Susil, Allen, and Onik does not teach each and every limitation of independent claim 16 as amended, and claims 17, 19 and 20 which depend from claim 16, applicant submits that claims 16, 17, 19 and 20 are allowable over these references.

Referring to independent claim 21, as amended, applicant submits that Susil, Allen, and Onik do not provide any teaching of: "determining a second transformation matrix for transforming coordinates in the end-effector coordinate system to coordinates in the robot coordinate system", as recited in claim 21 as amended.

Further, Susil, Allen, and Onik do not provide any teaching of: "determining a third transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in an the robot coordinate system, based on the first transformation matrix and the second transformation matrix."

Accordingly, because the combination of Susil, Allen, and Onik does not teach each and every limitation of independent claim 21 as amended, applicant submits that claim 21 and claims 22 and 23 that depend from claim 21 are allowable over these references.

Referring to independent claim 24, Susil, Allen, and Onik, alone or in combination, do not provide any teaching of: "moving the end effector along the second trajectory path toward the target position when an amplitude of the first signal is within a predetermined amplitude range, the predetermined amplitude range having an upper threshold value and a lower threshold value", as recited in claim 24. In fact, Susil, Allen, and Onik do not even mention upper and lower threshold values.

Further, Susil, Allen, and Onik do not provide any teaching of: "stopping movement of the end effector when the amplitude of the first signal is not within the predetermined amplitude range", as recited in claim 24.

Accordingly, because the combination of Susil, Allen, and Onik do not teach each and every limitation of independent claim 24, applicant submits that claim 24 is allowable over these references.

Claims 6-12, 14 and 15 were rejected under 35 U.S.C. 103(a) based on Susil, in view of Allen, further in view of Onik, further in view of Fore (U.S. Patent No. 4,838,279.)

Referring to independent claim 6, as amended, Susil, Allen, Onik, and Fore, alone or in combination, do not provide any teaching of: "the second computer further configured to determine a second transformation matrix for transforming coordinates in the end-effector coordinate system to coordinates in the robot coordinate system."

Further, Susil, Allen, Onik, and Fore do not provide any teaching of: "the second computer further configured to determine a third transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system, based on the first transformation matrix and the second transformation matrix", as recited in claim 6 as amended.

Accordingly, because the combination of Susil, Allen, Onik, and Fore does not teach each and every limitation of independent claim 6 as amended, and claims 7-12 and 14 which depend from claim 6, applicant submits that claims 6-12 and 14, are allowable over these references.

Referring to independent claim 15, as amended, Susil, Allen, Onik, and Fore do not provide any teaching of: "an end effector insertion device having the end effector adapted to be inserted into the person, the first computer inducing the end effector insertion device to move the end effector along the second trajectory path toward the target position when an amplitude of the first signal is within a predetermined amplitude range, the predetermined amplitude range having an upper threshold value and a lower threshold value."

Further, Susil, Allen, Onik, and Fore do not provide any teaching of: "stopping movement of the end effector when the amplitude of the first signal is not within the predetermined amplitude range", as recited in claim 15 as amended.

Accordingly, because the combination of Susil, Allen, Onik, and Fore does not teach each and every limitation of independent claim 15, as amended, applicant submits that claim 15 is allowable over these references.

In light of the foregoing remarks and amendments, Applicant submits that the claims are now in condition for allowance. Such action is therefore respectfully requested. If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any such issues may be promptly resolved. The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 07-0845.

Respectfully submitted,

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